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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,938

Applicant(s)

SUN ET AL.

Examiner

Cicely Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 2 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

3. The abstract of the disclosure is objected to because
 - a. Pg. 11, line 15, examiner suggests applicant delete this line for clarification purposes. Correction is required. See MPEP § 608.01(b).

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3-6, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Vimpari (US Patent 6,577,671).

(1) With regard to claim 1, Vimpari discloses a method for assigning a spreading code to a communication device which is part of CDMA communication system in which a plurality of communication devices receive and/or transmit signals encoded by respective spreading codes, the method comprising the steps of: deriving parameters of a multipath signal propagation channel for the device (col. 5, lines 28-33); computing for each of a set of possible spreading codes a respective performance value using said derived channel parameters (Fig. 5, col. 5, lines 46-49) and an auto-correlation function of the corresponding spreading code; selecting one of the possible spreading codes based on the performance values; and assigning said selected spreading code to said device (abstract, col. 1, lines 6-10, col. 2, lines 66-67, col. 3, lines 2-4, 7-13, 19-23, col. 4, lines 7-18, 47-55, col. 5, lines 17-22, 28-36, 48-51).

(2) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Vimpari further discloses 1) assessing which of the set of possible spreading codes has the

highest performance value; (2) determining whether that spreading code fulfils one or more acceptance criteria, (3) if in step (2) it is determined that that code fulfils the or each acceptance criterion, assigning that code to the device, and otherwise excluding that code from the set of possible spreading codes and returning to step (1) (col. 3, lines 9-12, 26-33, col. 5, lines 65-67, col. 6, lines 1-3).

(3) With regard to claim 4, claim 4 inherits all the limitations of claim 3. Vimpari further discloses wherein one said acceptance criterion is that the code is not presently in use by another device (col. 5, lines 49-51).

(4) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Vimpari further discloses said step of deriving parameters is performed by measurement of a CDMA signal received by the device (col. 5, lines 28-36).

(5) With regard to claim 6, claim 6 inherits all the limitations of claim 1. Vimpari further discloses in (Fig. 6) antenna (12) means for receiving CDMA signals; decoding means for decoding the CDMA signals using a spreading code associated with the device (col. 5, lines 17-22, col. 6, lines 41-54).

(6) With regard to claim 8, claim 8 inherits all the limitations of claim 6. Vimpari further discloses assessment means for assessing which of the set of possible spreading codes has the highest performance value; means for transmitting to a resource allocating centre a proposal that the spreading code with the highest performance value is associated with the device, and determining whether that centre accepts the proposal; control means arranged, upon determining that the centre accepts the proposal, to transmit the spreading code with the highest performance

value to the decoding means, and, upon determining that the centre rejects the proposal, to trigger said assessment means to operate again excluding the spreading code with the highest performance value from the set of possible spreading codes (col. 5, lines 39-67, col. 6, lines 41-54).

(7) With regard to claim 9, Vimpari further discloses in (Fig. 6) a CDMA communication system comprising a plurality of communication devices (12, 14) which receive and/or transmit signals encoded by respective spreading codes, and a resource allocation centre (16B), each device being arranged to use channel parameters of a channel associated with that device, and a respective auto-correlation function for each of a plurality of spreading codes, to generate a proposal for a spreading code to be associated with that device, and submit the proposal to the resource allocation centre; the resource allocation centre being arranged to receive the proposals, determine if they meet approval criteria, and accordingly transmit approvals or disapprovals to the devices (col. 5, lines 17-22, 28-36, 43-67, col. 6, lines 42-55).

Allowable Subject Matter

7. Claims 2 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method for assigning a spreading code to a communication device. Prior art references show similar methods but fail to teach: **“performance value of the k-th code is a value $m(k)$ ”**

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given by $r_s(k) = \text{Re} [\sum_{j=0}^{L-1} c^*(j) \sum_{i=0}^{L-1} c(i) r_s(k, i-j)]$, where i is an integer $i=0, \dots, L-1$, the L values $[c(i)]$ are said derived parameters, each corresponding to a respective delay of i chip periods, and $r_s(k, i)$ is the auto-correlation of the k -th code at a delay of i chip periods", as in claims 2 and 7.

Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
January 31, 2005


AMANDA L. LE
PRIMARY EXAMINER

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